Public Works (1914) Department.

G.O., No. 2189

DATED 13.5 1914.

(a) Records
F.S. 4/7

The Notes
in this G.O. have been printed.

[Despatch Abstract.]

Excavating a supply channel to the Kottur tank, Kudligi Taluk, Bellary Dt —

Approving the recommendation of the Chief Engineer for irrigation that detailed investigation of the work be proceeded with & calling on the S.E. to submit detailed plans and estimates therefor

P. W. 3.
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Government of Madras.

PUBLIC WORKS DEPARTMENT.

IRRIGATION.

Recd.	1914.	*Enclosures*
Regd.		*Spare copies*

G.O. No. 218 I., 13th May 1914.

Excavating a supply channel to the Kottur tank, Kudligi taluk, Bellary district

Approving the recommendation of the Chief Engineer for Irrigation that detailed investigation of the work of — be proceeded with and calling on the Superintending Engineer to submit detailed plans and estimates therefor.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

I

G.O. No. 383 I., dated 19th September 1912.

ABSTRACT.—Directing the abandonment of the work of forming a new tank near Kaggalur and new tank at Ayanahalli included in the programme of famine-relief works in the Bellary district for 1910–11.

II

Note by the Chief Engineer for Irrigation, No. 1757/13, dated 3rd April 1914.

With reference to paragraph 2 of G.O. No. 383 I., dated 19th September 1912, the Superintending Engineer, III Circle, submitted in May 1913 a preliminary report on a proposal to excavate a supply channel to the Kottur tank in the Kudligi taluk, Bellary district. It was reported that owing to insufficient supply the average annual cultivation under the tank was 614 acres as against a registered ayacut of 739 acres and that remission was being granted year after year on an extent of 125 acres. With a view to improve the supply it was proposed to construct an anicut across the Marur vanka and divert a portion of its supply into the tank by excavating a supply channel. Besides bringing under cultivation the extent of 125 acres above referred to, the proposed channel would also supply an extent of 60 acres available for extension of cultivation as wet.

2. In Memorandum No. 1757/13-1, dated 16th June 1913, the Superintending Engineer was asked to report whether there was any chance of the proposed supply channel as designed remaining clear of silt and also to consider the advisability of making a wider channel so as to derive full benefit from the vanka in bad years. In his letter last read above, the Superintending Engineer furnishes the information called for and submits revised proposals for the excavation of the channel. The scheme is roughly estimated to cost Rs. 25,000, from which a net revenue of Rs. 1,393 is anticipated. The Superintending Engineer has not made separate povision for collection charges and has clubbed it with the item "Maintenance charges." Allowing, as usual, 5 per cent on the gross revenue for collection charges, the net revenue comes to Rs. 1,313 as detailed in the margin, which represents a return of 5·2 per cent. on the proposed capital outlay.

		RS.
Gross revenue		1,590
Deduct—		
Dry assessment now realised in the proposed 60 acres ...	58	
Collection charges at 5 per cent.	80	
Maintenance charges at 12 annas per acre on 185 acres	139	
		277
		1,313

3. The allowance made for land compensation should be verified by the Collector. The Superintending Engineer should also make provision for passing all cross drainage over or under the channel, if this can be done at a reasonable cost. Subject to the above remarks, the Chief Engineer for Irrigation recommends that detailed investigation be proceeded with and plans and estimates for the work prepared.

W. M. ELLIS,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department (Irrigation Branch), with copies of Superintending Engineer's letters Nos. 9213, dated 30th November 1912, 4837, dated 21st May 1913, and 2590, dated 18th March 1914, and Memorandum No. 1757/13--1, dated 16th June 1913.

ENCLOSURES.

(i)

Letter—from P. R. ALLEN, Esq., Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—the 30th November 1912.
No.—9213.

Relative to paragraph 2 of G.O. No. 383 I., dated 19th November 1912, I have the honour to state that a preliminary report for constructing a dam across Marur vanka about 2 miles above Jaladakudligi referred to in paragraph 11 of Overseer's letter No. 96 and for excavating a supply channel to feed Kottur tank has been drawn up with an approximate estimate of cost. This report with the approximate estimate has been forwarded to the Collector of Bellary for his opinion on the scheme generally, and from a financial point of view in particular. On receipt of his reply the preliminary report will be duly submitted.

(ii)

Letter—from W. J. J. HOWLEY, Esq., Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—the 21st/26th May 1913.
No.—4837.

In reference to this office No. 9213, dated 30th November 1912, I have the honour to forward herewith for favour of your approval and orders for detail investigation a preliminary report with necessary plans for excavating a supply channel to the Kottur tank, Imperial No. 50, Kudligi taluk, Bellary district.

(iii)

Preliminary report for excavating a supply channel to or for diverting the Marur vanka to feed Kottur tank (Kudligi taluk).

Kottur tank, Imperial No. 50, has a free catchment of 8·89 square miles and an intercepted catchment of 31 square miles. In addition to the supply received from its independent catchment the tank is also supplied from the Rampur vanka on the east, through an old supply channel. Even under these circumstances the tank never receives a sufficient supply. The capacity of the tank as worked out from cross sections comes to 173·69 million cubic feet, and and if it filled every year, the water impounded should be sufficient to irrigate not only its registered ayacut of 739·33 acres, but also an additional extent of about 61 acres, or about 800 acres on the whole, allowing a duty of ·216 million cubic feet per acre. Owing to insufficient supply, however, the average annual cultivation is only 614 acres, that is 125 acres less than the registered ayacut. Hence with a view to augment the present supply to the tank, it is proposed to construct an anicut across the Marur vanka and to divert a portion of its supply into the tank by excavating a supply channel.

General description of the country affected.—As the project consists in improving the supply to the Kottur tank, the country that is affected is practically the existing wet ayacut under the Kottur tank, with an additional extent of some 60 acres in the three Government villages of Kottur, Kodihalli and Kalyan. From the letter D. Dis. No. 453 of 1913, dated 14th March

1913, from the Revenue Divisional Officer, Hospet, to the Collector of Bellary (copy enclosed), it will be observed that only an additional ayacut of 60·03 acres is available for wet cultivation, in addition to the existing ayacut of 739·33.

Catchment area, etc., of vanka above site of anicut.—The catchment area of the Marur vanka above the proposed site of the anicut is 40 square miles, and the average annual rainfall in the locality as recorded at the nearest rainfall station, viz., Ujjaini, is 16·33 inches. The maximum discharge of the vanka at the site of the anicut is calculated from the cross sections to be 4,712 cusecs, using Kutter's formula (N = 0·025). Again, the discharge from the drainage area, using Ryves' formula with C = 400 comes to 4,672 cusecs. The average of these two quantities, being 4,692 cusecs, or say 4,700 cusecs in round numbers, has been taken for calculation purposes. To discharge this quantity with a depth of 4 feet over the crest a weir 160 feet long is necessary.

The present capacity of the tank is, as already stated, 173·69 million cubic feet and from its own existing catchment, the tank at present receives on an average a supply sufficient for 614 acres. Hence the additional supply required is for the 125·33 acres, on which remission is granted year after year, and also for the 60 acres available for extension, *i.e.*, a total extent of 185·33 acres. The supply thus required works out (185·33 × ·216) to 40·03 or say 41 million cubic feet. The vanka is reported to be in fresh for about 15 days on an average during the period May to December. Hence the supply channel should be capable of discharging 41 million cubic feet in 15 days. A channel of 5 feet bottom width, side slopes 1 to 1, fall one foot per mile and 3 feet depth, can discharge about 32 cusecs or 41·47 million cubic feet in 15 days. The bed level of the channel at head will be 83·50 and the F.S.L. 86·50. The F.T.L. of the tank is 77·69. The length of the channel from the proposed anicut to the tank is about eight miles. The crest of the anicut will be kept at 87·00; rock is met with at bed level for the major portion of the width of the vanka and at 2 to 3 feet below bed level for the remaining portion at the left side of the vanka. The anicut will be built on rock with 3 feet top width and a batter of 1 in 3 both in front and rear.

By the improvements proposed an extent of 60 acres as reported by the Collector will be brought under wet cultivation in addition to the existing wet ayacut of 739·33 acres.

	RS.
Revenue from the irrigation of 60 acres at Rs. 7 per acre	420
Amount of remissions granted year after year on 125 1/3 acres as reported by the Divisional officer	1,170
Total ...	1,590
Deduct—	
Dry assessment now realised on the proposed 60 acres	58
Collection and maintenance charges on (125·33 *plus* 60) or 185 1/3 acres at 0–12–0 per acre	139
	197
Total additional net revenue derivable therefore works to ...	1,393
Rough estimate of cost—	
Anicut and head works	5,000
Masonry works for outlet, weirs, superpassages, etc., 4 in number, say	4,000
Construction of two road culverts	800
Excavation of channel, mostly in ordinary soil, except two miles in gravelly soil, average depth 6 feet of cutting and total length 8 miles (2,800 units at Rs. 7—8—0)...	21,000
Compensation for land through which channel is to be taken, say 36 acres	1,400
Construction of a sluice (if necessary) and distributary channels to the extended ayacut, and petty repairs to tank	1,800
	34,000

The net additional revenue of Rs. 1,393 will yield a return of just over 4 per cent. on the proposed approximate expenditure of Rs. 34,000. The project therefore appears to be remunerative.

W. J. J. HOWLEY,
Superintending Engineer, III Circle.

(iv)

Hydraulic calculations.

Maruru Vanka.

Catchment area of the Vanka at the site of proposed dam 40 sq. miles.
$C = 400$; Discharge $= 400\ (40)^{\frac{2}{3}} = 400 \times 11{\cdot}68 = 4{,}672$ cusecs.

Discharge calculated from the cross sections.

Cross section No. 1 taken at site of dam.

Kutter's formula, $N = 0{\cdot}025$. M.F.L. $= 88{\cdot}57$.
Fall $= 12$ feet per mile or $\cdot 00227$ per foot.

$A = 667{\cdot}39$ sq. ft.
$R = 4{\cdot}57$ ft.
$\sqrt{r} = 2{\cdot}13$.
$C = 76{\cdot}7$.

$$C = \frac{\left(41{\cdot}6 + \frac{1{\cdot}811}{N} + \frac{0{\cdot}00281}{s}\right)\sqrt{r}}{\sqrt{r} + N\left(41{\cdot}6 + \frac{\cdot 00281}{s}\right)} = \frac{115{\cdot}27 \times 2{\cdot}13}{3{\cdot}20} = 76{\cdot}7$$

$V = 76{\cdot}7 \times 2{\cdot}13\ \sqrt{s} = 7{\cdot}67$; Discharge $= 667{\cdot}39 \times 7{\cdot}67 = 5{,}118{\cdot}88$ or say 5,119 cusecs.

Cross section No. 2 at half a mile above dam.

M.F.L. $= 96{\cdot}00$.
$A = 647{\cdot}27$ sq. ft.
$R = 4{\cdot}0$. $\sqrt{r} = 2{\cdot}0$. $V = 7{\cdot}059$.
$C = 75{\cdot}1$; Discharge $= 647{\cdot}27 \times 7{\cdot}059 = 4{,}569{\cdot}07$ or say 4,569 cusecs.

Cross section No. 3 at half a mile below dam.

M.F.L. $= 82{\cdot}00$
$A = 634{\cdot}69$ sq. feet.
$R = 3{\cdot}966$
$\sqrt{r} = 1{\cdot}99$.
$C = 75$.
$V = 7{\cdot}01$.
Discharge $= 634{\cdot}69 \times 7{\cdot}01 = 4449{\cdot}1$ or say 4,449 cusecs.
The average discharge at 3 cross sections is—

$$\frac{5{,}119 + 4{,}569 + 4{,}449}{3} = \frac{14{,}137}{3} = 4{,}712 \text{ cusecs.}$$

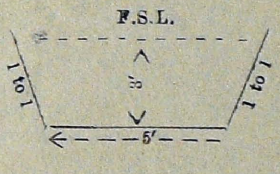
The average discharge between that calculated from the catchment area and the cross sections is $\frac{4{,}672 + 4{,}712}{2} = 4{,}692$ cusecs or say 4,700 cusecs.

Anicut or dam.

Length of anicut available is 160 ft. This will discharge the maximum flood discharge of 4,700 cusecs with a depth of 4′ over crest of anicut.

Channel.

The discharge proposed to be taken through the channel being calculated to be 32 cusecs, the channel will have 5 feet bed width and 3 feet F.S.L. as shown below :—



Kutter's formula.

$N = 0{\cdot}0225$; Fall = One foot per mile.
$\sqrt{r} = 1{\cdot}29 \times 1{\cdot}035 = 1{\cdot}335$.
$a\sqrt{r} = 25{\cdot}16 \times 1{\cdot}282 = 32{\cdot}25$.
$C = 70{\cdot}27$; $C\sqrt{s} = 0{\cdot}97$.

Discharge $= 32{\cdot}25 \times 0{\cdot}97 = 31{\cdot}28$ or say 32 cubic feet per second.

Crest of anicut proposed	+ 87·00
Full supply level of channel...	+ 86·50
Bed level of channel	+ 83·50
Full tank level (F.T.L.) of the tank	+ 77·69

(v)

Letter—from G. F. Paddison, Esq., I.C.S., Collector of Bellary.
To—the Superintending Engineer, III Circle.
Dated—the 10th April 1913.
No.—D. Dis. 1467.

In reply to your letter No. 8945, dated 22nd November 1912, I have the honour to forward herewith a copy of Rayadrug Divisional Officer's letter D. Dis. No. 453, dated 14th March 1913, on the subject and to state that in the circumstances reported by him the proposed improvements seem to be useful besides being remunerative.

2. A copy of the statement showing the existing and the proposed ayacut under the tank with particulars of revenue received from the Divisional Officer is enclosed.

Sub-Enclosures.

(1)

Letter—from the Revenue Divisional Officer, Rayadrug.
To—the Collector of Bellary.
Dated—the 14th March 1913.
No.—D. Dis. 453.

With reference to your Endorsement R.C. No. 4541, dated the 11th December 1912, in the matter of improving Kottur tank, Kudligi taluk, I have the honour to submit herewith the Taluk Tahsildar's report D. Dis. No. 398, dated the 7th February 1913, and D. Dis. No. 572, dated 7th March 1913, with their enclosures and to report as follows.

2. The Public Works Department figures regarding the tank ayacut and finance appear to be slightly wrong. Excluding inam area which fetches no irrigation revenue to Government, the tank and its supply channel or surplus water appear to irrigate acres 62,138 of Government wet land with Rs. 3,812–9–0 assessment thereon in three Government villages. The Tahsildar's statement shows that a total remission of Rs. 5,851–10–0 was granted on the ayacut during the previous five years. This gives an average loss of Rs. 1,170 per annum to Government. The dry area that can be duly brought under wet ayacut is put down at 60·03 acres. The dry assessment thereon is given as Rs. 58–1–0, and the expected wet assessment thereon at Rs. 420. Thus the increase in revenue would be Rs. 362 nearly. The total profit to Government would thus be Rs. 1,170 *plus* Rs. 362 or Rs. 1,532, and this gives a net profit of Rs. 3·75 per cent. on the estimated cost of the scheme, viz., Rs. 40,000.

3. The Department of Public Works considers that besides the above income about 100 acres alongside the new channel may also be brought under wet cultivation. If this be feasible, this will give an additional annual income of Rs. 400 and the profits may be nearly 5 per cent. on the capital cost.

4. Under the tank and its channel, there appears to be second crop in an average area of 178 acres (nearly fetching Rs. 485 per annum). We may expect some increase under this head also.

5. The total occupied area both jirayat and inam under the tank is 739·33 acres and the average cultivation thereunder was only 614 acres during the past five years thus leaving 125 acres fallow. All this land would be irrigated and the ryot saved the loss of crop in about 17 per cent. of the ayacut area.

6. I have inspected the tank today and the lands under it to some extent. The scheme appears to be profitable, both to Government and the ryot in the circumstances stated above and I recommend its investigation as proposed by the Department of Public Works.

(2)

Statement showing the particulars required for the proposed extension of wet ayacut under the Kottur tank.

Number.	Name of village.	Wet ayacut. Government. Extent.	Wet ayacut. Government. Assessment.	Wet ayacut. Inam. Extent.	Wet ayacut. Inam. Assessment.	Wet waste under the tank (not brought under holding.) Extent.	Wet waste under the tank (not brought under holding.) Assessment.	Cultivation and waste under the tank for the last five years. Extent of cultivation.	Extent of waste charged.	Extent of waste remitted.	Remission during the last five years.	Proposed additional ayacut. Extent.	Dry assessment.	Wet assessment.	Remarks.
		ACS.	RS. A. P.	ACS.	RS. A. P.	ACS.	RS. A. P.	ACS.	ACS.	ACS.	RS. A. P.	ACS.	RS. A. P.	RS. A. P.	
115	Kottur	504·19	3454 8 0	69·75	636 5 0	3·32	19 7 0	2,242·8	223·87	..	5073 5 0	60·3	58 1 0	420 0 0	Class and sort 3-1, 3-3 and 4-2. Rate of assessment Rs. 7 per acre.
				Quit-rent	156 9 8										
113	Kodeballi	7·33	29 5 0	..	..	..	..	30·99	5·66	..	19 6 0	..	..	..	
19	Kalyam	109·56	328 12 0	15·18	68 6 0	..	.	670·63	55·39	..	758 15 0	..	..	..	
				Quit-rent	32 15 9										
114	Sirinayakanahalli (shrotriem village).	..	..	33·2	59 4 0	..	..	129·83	3·27	..	..	..	..	..	
				Quit-rent	17 12 0										
	Total of five years ..	..	..	..	..	..	..	3,070·53	320·19	..	5,851 10 0	..	..	..	
	Total ..	621·38	3,812 9 0	117·95	763 15 0	3·32	19 7 0	614·0	64	61	1170 0 0	60·3	58 1 0	420 0 0	
				Quit-rent	207 5 5			Average for five years.							

(vi)

Memorandum No. 1757/13-1, *dated* 16*th June* 1913.

With reference to letter No. 4837, dated 21st/26th May 1913, from the Superintending Engineer, III Circle, submitting a preliminary report for excavating a supply channel to the Kottur tank, Kodligi taluk, Bellary district, it is observed that the compensation for land through which the proposed supply channel is to be taken is fixed at Rs. 1,400 for 36 acres. The Superintending Engineer is requested to report if the Collector has approved of this valuation.

2. It is stated that the tank is also supplied from the Rampur vanka through an old supply channel in addition to the supply received from its independent catchment. The Superintending Engineer is requested to report what is the state of this supply channel, whether it has silted up, and, if so, what the present bedfall is.

3. He is requested to consider whether there is any chance of the new supply channel as designed, which will have a velocity of only about 1·25 feet per second, remaining clear of silt.

4. The Superintending Engineer, is also requested to consider the advisability of making a wider channel so as to derive full benefit from the Vanka in bad years.

(By Order.)

F. E. MORGAN,
Assistant Chief Engineer for Irrigation.

To the Superintending Engineer, III Circle.

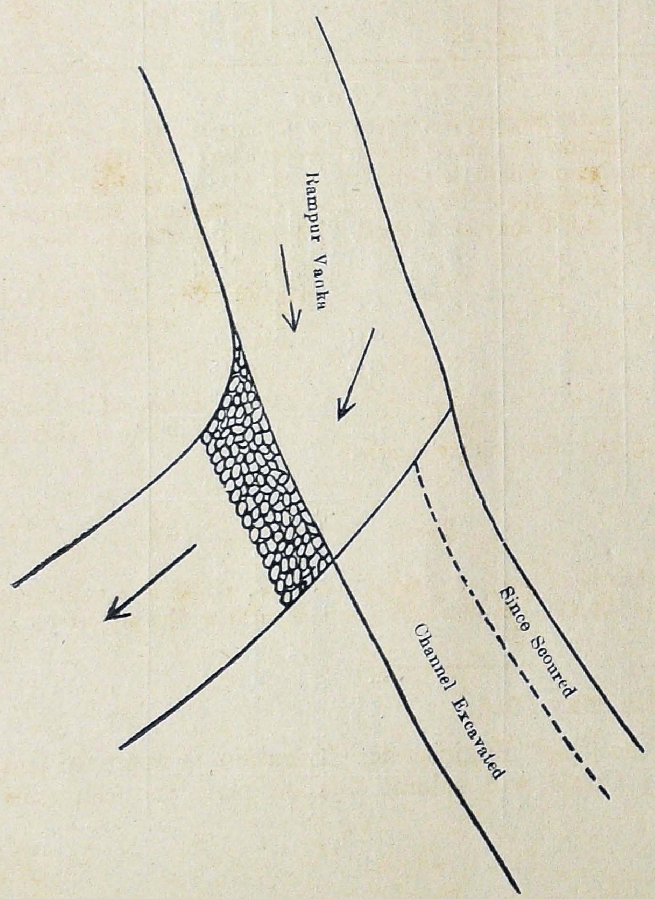
(vii)

Letter—from R. W. FORMBY, Esq., Officiating Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—the 12/18th March 1914.
No.—2590.

With reference to your No. 1757/13-1, dated the 16th June 1913, I have the honour to report that I have inspected the Rampur vanka supply channel and have been over the proposed line of the supply channel from the Marur vanka.

2. Regarding paragraph 1 of your number quoted above, the Collector has been asked to verify the allowance made for compensation, but no answer has been received up to date, and I do not expect an answer soon as Jamabandi is in full swing.

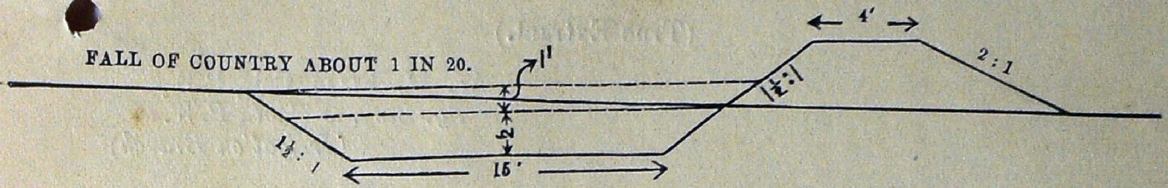
3. Regarding paragraph 2. The Rampur vanka course was as per sketch below :—



At a bend in the vanka a rough stone escape was formed and the supply channel was excavated 40′ wide in continuation of the vanka which is about 60′ to 70′ wide. The channel was given a fall of 8′ or 9′ per mile, whereas that of the vanka above it was 12′ per mile. The water flowing in the vanka with a velocity due to 12′ fall naturally had sand and silt in suspension, and when this velocity was checked by a curtailed water-way and a reduction in fall, it is only to be expected that the sand would be deposited. A certain amount of scour has taken place and the channel has sufficient sand deposited in it to reduce the fall to 6·5′ per mile.

It is absolutely impossible to compare the chances of silting in the existing supply channel and in that proposed from the Marur vanka—the former is now nothing more than a watercourse, whereas the latter will be an irrigation channel with fixed hydraulic details.

4. I would recommend a channel to be excavated as per sketch below :—

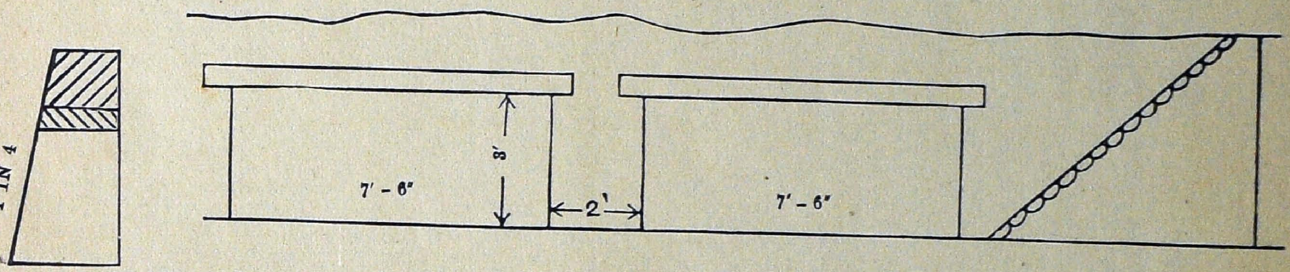


Hydraulic details.

	1' depth.	2' depth.	3' depth.
Area of waterway	16·5	36	58·5
R.	·9	1·7	2·43
100 √R.S.	1·35	1·85	2·21
C.	·51	·62	·67
S.	1' per mile.	1'	1'
N.	0·025	0·025	0·025
V.	·688'/Sec.	·9'/Sec.	1·48'/Sec.
Discharge	11·3 cusecs.	32·4 cusecs.	86·58 cusecs.
Discharge per diem	0·97 m.c.ft.	2·79 m.c.ft.	7·4 m.c.ft.

This vanka is said to flow for 15 days and it will be assumed that in an ordinary year it will flow for 5 days at 3' depth, 5 days at 2' depth and for 5 days with 1' depth which brings the total supply received up to 55·8 millions against the 40 millions required.

5. The cost of the channel as per section given above, 8½ miles long, has been worked out in the office at Rs. 11,000 about. I should propose a head sluice with large vents thus :—



and without shutters, so that if any extraordinary flood occurred in the vanka there would be some check on the amount of water the channel was asked to carry—cost about Rs. 300. For greater safety an escape 3' high with sand sluices would be provided for at about ½ a mile lower down at a convenient site, and this would cost about Rs. 300. For other masonry works two road culverts, weirs and superpassages Rs. 5,000 may be allowed. The total then comes to—

	RS.	
Excavating channel	16,000	(Rs. 5,000 added for unforeseen cuttings and embankments).
Masonry works	5,600	
Compensation	2,000	(Extra added for extra width of channel.)
Construction of sluice in tank and distributary channel for extending ayacut	1.800	
Total ...	25,400	

The net additional revenue has been worked out at Rs. 1,393 which is a return of 5·5 per cent. on the expenditure of Rs. 25,400. I therefore recommend that the project be taken up.

Order—No. 218 I., dated 13th May 1914.

The recommendation of the Chief Engineer for Irrigation is approved and the Superintending Engineer, III Circle, will submit detailed plans and estimates for the work.

2. The attention of the Superintending Engineer will be drawn to paragraph 3 of the note by the Chief Engineer for Irrigation.

(True Extract.)

W. M. ELLIS, Col., R.E.,
Ag. Secy. to Govt., P.W.D.
(*Irrigation Branch*).

To the Chief Engineer for Irrigation.
" Superintending Engineer, III Circle, with plans.
" Revenue Department.

Forwarded to the

(By Order.)

Deputy Registrar.

PUBLIC WORKS DEPARTMENT
(IRRIGATION BRANCH).

NOTES CONNECTED WITH G.O. No. 218 I., DATED 13TH MAY 1914.

[SUBJECT.—*Excavation of a supply channel to the Kottur tank, Bellary district.*]

Note by the Chief Engineer for Irrigation, dated 3rd April 1914, No. 1757/13-2.

Under Secretary—

The Chief Engineer for Irrigation recommends the detailed investigation of the scheme of excavating a supply channel to the Kottur tank in the Kudligi taluk, Bellary district. The scheme is remunerative as a return of 5·2 per cent. is expected on the capital outlay. A draft order directing the preparation of detailed plans and estimates for the scheme is submitted and may be sent to Revenue and Financial for acceptance

G.V.—4-4-14.

P.K.S.—4-4-14.

F. E. MORGAN—4-4-14.

To the Revenue Department } *u.o*
„ *Financial* „ }

REVENUE DEPARTMENT.

Under Secretary—

The draft order may, it is submitted, be accepted in Revenue and the file passed on to Financial.

B.M.R.—14-4-14.

R.S.—16-4-14.

H. A. WATSON—17-4-14.

To the Financial Department u.o.

FINANCIAL DEPARTMENT.

The roughly estimated outlay on account of the proposed supply channel is Rs. 25,000; and the net additional revenue is calculated at Rs. 1,313 which represents a return of 5·2 per cent. Submitted that in the circumstances reported, a detailed investigation of the scheme seems justifiable, and the proposal may be accepted in Financial. Application for temporary establishment for the detailed investigation, if any is actually required, will be made by the Superintending Engineer, III Circle, later on.

C.P.K.—1-5-14.

Chief Secretary—

B. LAVILLE—5-5-14.

Approved.

A. BUTTERWORTH—6-5-14.

To the Public Works Department (Irrigation) u.o.

PUBLIC WORKS DEPARTMENT
(IRRIGATION BRANCH).

Under Secretary—
Secretary—

The draft may be submitted to the Honourable Member for approval.

A.V.S.—7-5-14.

F. E. MORGAN—7-5-14.
W. M. ELLIS—8-5-14.

Honourable Member—

A. G. C[ARDEW]—9-5-14.

Issue. [Need not be placed on Editors' Table.]

A.V.S.—9-5-14.

W.M.E.—11-5-14.

[Issued as G.O. No. 218 I., dated 13th May 1914.]

Note by the Chief Engineer

for Irrigation No 1757/13

dated 3.4.1914

36

flag y

With reference to para 2 of G.O. No.383-1, dated 19-9-1912 the Supg.Engr III Circle, submitted in May 1913 a preliminary report on a proposal to excavate a supply channel to the Kottur tank in the Kudligi taluk, Bellary Dt. It was reported that owing to insufficient supply the average annual cultivation under the tank was 614 acres as against a registered ayacut of 739 acres and that remission was being granted year after year on an extent of 125 acres. With a view to improve the supply it was proposed to construct an anicut across the Marur Vanka and divert a portion of its supply into the tank by excavating a supply channel. Besides bringing under cultivation the extent of 125 acres above referred to, the proposed channel would also supply an extent of 60 acres available for extension of cultivation as wet.

p 4 cf

pp 5-8 cf

p 5 cf.

p 7 cf.

cf p 5

pp 5-6 cf

p 14 cf

2. In memo No.1757/13-1 dated 16-6-1 the Supg.Engr.was asked to report whether there was any chance of the proposed supply channel as designed remaining clear of silt and also to consider the advisability of making a wider channel so as to derive full benefit from the Vanka in bad years.

284

in

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2

in his letter last read above, the Supg. Engineer furnishes the information called for and submits revised proposals for the excavation of the channel. The scheme is roughly estimated to cost Rs.25,000. from which a net revenue of Rs.1,393 is anticipated. The Supg. Engineer has not made separate provision for collection charges and has clubbed it with the item "Maintenance charges." Allowing as usual 5% on the gross revenue for collection charges the net revenue comes to Rs.1,313 as detailed in the margin; x which represent a return of 5.2% on the proposed Capital outlay.

x Gross Revenue...	Rs.1,590
Deduct.	
Dry assessment now realised in the proposed 60 acres..	58
Collection charges... @ 5%.	80
Maintenance charges @ 12As.per acre on 185 acres ...	139
	277
	1,313

3. The allowance made for land compensation should be verified by the Collector. The Supg. Engineer should also make provision for passing all cross drainage over or under the channel, if this can be done at a reasonable cost. Subject to the above remarks, the Chief Engineer for Irrigation recommends that the detailed investigation be proceeded with and plans and estimates for the work prepared.

P.K.S. 3.4.14

To the Secretary to Govt.P.W.D.I. with copies of Supg. Engr's letters Nos. 9213 d/30-11-12,4837 d/21-5-13 and 2590 d/18-3-14 and Memo No.1757/13-1 d/ 16-6-13.

6

Sectt. II—10 (a)—7,000—4-13.

P W DEPARTMENT. I

Channels.
tanks.

Excavating a supply channel to the Kotter tank, Kudligi Taluk Bellary Dt.

Approving the recommendation of the Ch. Engr. for Irrigation that detailed investigation of the work — be proceeded with and calling on the Supg. Engineer to submit detailed plans & estimates therefor.

READ AGAIN G.O. No. 383 I dated 19. 9. 1912

" " " " , " 191 .

READ ALSO:—

Lp1. 20. C. No. , ~~From~~ Note by E-2., No. 1757/13-2 dated 3. -4 1914.

" " , " " , " , " 191 .

" " , " " , " , " 191 .

ORDER. No 218 I dated 13 . 5 . 1914.

Press

The recommendation of the Chief Engr. for Irgn is approved, and the Supg. Engr III circle will submit detailed plans & estimates for the work.

2. The attention of the Supg. Engineer ~~Engr III circle~~ will be drawn ~~to~~ Para 3 ~~4~~ of the note by E-2.

M 31.3.14

GW 4.4.14.

4/4/14

8/6/14

To

The Chief Engr for Irgn

.. Supg. Engr III circle with plans.

.. Revenue Dept.

.. ~~[illegible]~~

Type E1's note

DESPATCHED 14 MAY 1914

D. 7.14

HC

1752/13

CHIEF ENGINEER FOR IRRIGATION. 1 NOV 1912 C. 3155/12.

Government of Madras.

PUBLIC WORKS DEPARTMENT

IRRIGATION.

Recd. } 1912. *Enclosures*

Regd. } *Spare copies*

G.O. No. 383 I., 19th September 1912.

DEI

The preliminary report referred to in para 2 of the order has been received with the SE's No 4837 d/ 26. 5 13 (CN 1825/13) & is separately under disposal. This may be recorded

Des

Recorded

PKS 6.6.13

Do lie over for three months pending receipt of the report called for in para 2 of the G.O.

4/11/12

DEI

21/11/12 PKS 4.11.12

Famine-relief works

Directing the abandonment of the work of forming a new tank near Kaggalur and new tank at Ayanahalli, included in the programme of — in the Bellary district, for 1910–11.

The case referred to by D.E.I has since been disposed of vide G.O. No. 218 I 13-5-14. This may be filed.

11.7.14

Flag R.

14.7.14

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following papers:—

I

Memorandum to the Superintending Engineer, III Circle, R.O.C. No. 1471/10, dated 4th April 1910.

Memorandum to the Superintending Engineer, III Circle, R.O.C. No. 1471/10, dated 1st December 1910.

II

Letter—from P. R. Allen, Esq., Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—the 12th December 1910.
No.—8176.

[*Reference.*—Your Memorandum R.O.C. No. 1471/10, dated 1st December 1910].

Relative to the above, I have the honour to forward herewith copy of a letter No. 1215–S.E., dated the 3rd December 1910, from the Executive Engineer of the Bellary division.

I am not in a position to forward you a final reply on this matter, and with the present staff available in the Bellary district, it will take some little time before a final reply can be sent; if you consider the matter of sufficient importance, I will send in a proposition statement for a special staff to investigate these projects, and so dispose of the reference at the shortest possible notice.

Enclosure.

Letter—from the Executive Engineer, Bellary Division.
To—the Superintending Engineer, III Circle.
Dated—the 3rd December 1910.
No.—1215-S.E.

In reference to your No. 7841, dated 22nd November 1910, I have the honour to report that the preliminary report for the formation of a tank near Kaggalu called for from the Sub-divisional Officer, Bellary, is still awaited from him in spite of repeated reminders. It is not possible to state when a reply can be expected from this Sub-divisional Officer. He is again reminded.

2. * * * * *

3. *New tank at Ayanahalli across Marur vanka.*—From a preliminary report received from the Sub-divisional Officer, Mr. Langston thought that the project was not worth consideration but recommended a new proposal to dam up the said vanka and feed the Kottur tank by the excavation of a new supply channel. A report on the latter was made by me in this office No. 631-S.E., dated 27th June 1910.

III

Memorandum R.O.C. No. 1471/10, dated 21st December 1910.

With reference to his letter No. 8176, dated 12th December 1910, from the Superintending Engineer, III Circle, the Chief Engineer for Irrigation has the honour to state that the three tanks mentioned in this office No. 1471/10, dated 4th April 1910, are on the famine programme of the Bellary district as unsanctioned works; and the Superintending Engineer should take as early steps as practicable to prepare the necessary estimates for these works or to remove them from the famine programme if on investigation they are found not worth carrying out. The necessity for a special staff to investigate them is not apparent.

H. E. CLERK,
Chief Engineer for Irrigation.

To the Superintending Engineer, III Circle.

IV

Letter—from the Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—the 25th January 1911.
No.—592 I.

[*Reference.*—Your R.O.C. No. 1471/10, dated 4th April 1910.]

Relative to the above and subsequent correspondence, I have the honour to inform you that it appears that surveys and levels were taken for the proposed new Kaggalu tank in the Adōni taluk and submitted complete to the Bellary Sub-divisional Officer in May 1909. They have lain in his office ever since and have just reached me. I may mention that of course the Sub-divisional Officer Mr. Power was very much to blame and his conduct was brought to the notice of the Chief Engineer who transferred him from the circle. The project is one which will possibly pay some small fraction of 1 per cent. and I fancy be rather a difficult one. It is situated near the Rampur channel just at the point where the Madras and Southern Mahratta Railway crosses the Tungabhadra. The plans are not complete as you have ruled that, in famine projects as in others, the ayacut map must be complete showing each field commanded and system of distributaries. The project according to the incomplete plans which I have is not at all a tempting one but can find no reason for condemning it and the plans will therefore be returned to the Executive Engineer, Bellary, for completion.

2. So far as the information I have in the office as concerns the Kenchemallamanalli tank, it seems to be promising and the matter is under enquiry.

3. Mr. Langston when Executive Engineer, Bellary, has visited and reported on the Ayanahalli scheme and condemned it. I had a consultation with him relative to the matter and fully agree with him in his opinion.

V

Memorandum R.O.C. No. 1471/10, dated 1st March 1911.

With reference to letter No. 592 I., dated 25th January 1911, from the Superintending Engineer, III Circle, the Chief Engineer for Irrigation has the honour to request him to submit preliminary reports regarding the following works :—

(1) Forming a tank near Kaggalu.
(2) Kenchamallamanalli tank.

The report should contain information on the following points :—

(1) General description of the country affected.
(2) Catchment and estimated run-off at site of the reservoir.
(3) Approximate capacity of the reservoir.

(4) Longitudinal and a few cross-sections at site of the proposed reservoir with sketches of the section of bund, and a description of soil and sub-soil.

(5) Proposals for disposing of floods.

(6) Description of ayacut and estimate of area irrigable and revenue to be derived therefrom.

(7) Description of distributary channels and subsidiary works.

(8) Rough estimate of cost of the work.

* * * * *

3. The Superintending Engineer is also requested to communicate to this office his reasons for condemning the Ayanahalli scheme.

H. E. CLERK,
Chief Engineer for Irrigation.

To the Superintending Engineer, III Circle.

VI

Memo. to the Superintending Engineer, III Circle, R.O.C. No. 1471/10, dated 4th October 1911.

VII

Letter—from P. R. ALLEN, Esq., M.I.C.E., Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—Bellary, the 6th November 1911.
No—7644.

[*Reference.*—Your No. 1471/10, dated 1st March 1911.]

I have the honour to forward herewith a copy of this office No. 591, dated the 25th January 1911, to the address of the Executive Engineer, Bellary, together with copy of D. Dis. No. 2934, dated the 9th August 1911, from Mr. J. A. Cumming, the Collector of Bellary.

I request you will kindly issue such further orders on this subject as you may consider the case merits.

ENCLOSURES.

(1)

Memo.—from the Superintending Engineer, III Circle.
To—the Executive Engineer, Bellary Division.
Dated—the 25th January 1911.
No.—591.

[*Reference.*—His. No. 75-S.E., dated 23rd January 1911.]

In returning the plans and estimates sent with the above, has the honour to inform him that the Chief Engineer for Irrigation has ruled that irrigation projects for a famine scheme must be drawn up in full detail in the same manner as projects for any other scheme. The project therefore for the proposed Kaggalu tank should be drawn up in full detail in every way.

In the first place, the bund must conform throughout to the design as laid down by the Chief Engineer for Irrigation. There must be 5 feet of earth at least on the toe of the hydraulic gradient of 1 in 4 drawn from F.T.L. There must be 5 feet and no more. The rate must include adequate provision for clod-breaking and consolidation. Plans according to standard types should be drawn for the masonry works in the bund, sluice and weir. As regards the design of the latter, the Executive Engineer had better take very careful observations as to the co-efficient of discharge from the catchment area as in such a locality it is not unlikely to be very high indeed. Careful levels must be taken over the whole proposed ayacut which should be shown coloured in green on the village map, and a complete system of distributaries should be designed and shown on the map. There seems a likelihood of a masonry work being required to take a distributary channel under the Madras Railway. Provision in the estimate must be made for this masonry work and any other that may be required.

Even as it stands the project is not likely to bring in any return on the outlay, and when the estimate is complete, the Superintending Engineer considers it very likely that this small margin will be still further diminished. The project at its best is one which will afford work for famine labour; it will, in no sense of the word, be a famine protective work. Considering that in the immediate vicinity of the project there is a famine protective work of the highest character in the Rampur channel which is never failing in its supply, it seems very questionable if a famine work of this character is at all required in this neighbourhood, and the Superintending Engineer thinks that it would be better before expending any more labour on this project to put the whole matter clearly before the Collector and take his advice as to the necessity of proceeding into the investigation of such a project situated in such a neighbourhood. All the people of the adjacent villages will be sure to find work, even in the worst years in the fields under the Rampur channel, and will not be likely to patronise the famine work. It is all the more necessary to pursue this course because the completion of the plans and estimates of this project will be a matter of no little labour and he has so small a staff in the Bellary sub-division.

If the Collector elects to have the plans and estimates completed, the usual revenue report and estimate of returns must accompany the other documents.

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(2)

Letter—from J. A. CUMMING, Esq., I.C.S., Collector of Bellary.
To—the Executive Engineer, Bellary Division.
Dated—the 9th August 1911.
No.—D. Dis. 2934.

With reference to your letter No. 51 B.C., dated the 2nd March 1911, I have the honour to state that the project of restoring the Kaggalu tank, Adōni taluk, as a famine work may be abandoned as the probable income will be small and uncertain.

2. The enclosures are returned herewith as desired.

VIII

Letter—from P. R. ALLEN, Esq., M.I.C.E., Superintending Engineer, III Circle.
To—the Chief Engineer for Irrigation.
Dated—Bellary, the 11th November 1911.
No.—7646.

[*Reference.*—R.O.C. No. 1471/10, dated 4th October 1911.]

I have the honour to inform you that during Mr. Langston's tenure of the office of the Executive Engineer, Bellary, he called for a report from the Hospet Sub-divisional Officer on the Ayanahalli scheme and a copy of the report, No. 96, dated 5th June 1909, made by the Overseer, T. S. Rangaswami Aiyar, under the direction of the Sub-divisional Officer, is enclosed for your information. A previous report was made by Mr. Moses Pillai in his No. 1107, dated 2nd September 1908, a copy of which is also enclosed together with a copy of the enclosed tracing.

2. Mr. Langston visited the locality, which is in the neighbourhood of Kottur, and he then visited me in my office and informed me that he considered the project so immensely unpromising that it was not worth spending more time or money on it and I quite agreed with him. In the first place, the proposed project is situated in a locality where paddy cultivation is not properly understood or properly practised and water is only valued for the cultivation of sugarcane. The efforts to grow paddy under the Kottur tank are quite pitiful. In the second place, there is a promising project in the near vicinity for providing a supply channel to the Kottur tank which would, I understand, interfere with this project materially as it would divert a portion of the drainage of the Marur vanka into the Kottur tank. This latter proposed supply channel to the Kottur tank is of so promising a nature that survey work on it is proceeding and, in due course, it will probably be submitted for your approval as a productive project.

3. Under these circumstances I recommend your approval to my dropping the Ayanahalli scheme altogether without further enquiry.

Enclosures.

(1)

Letter—from M. R. Ry. T. S. Rangaswami Aiyar, Overseer, Public Works Department.
To—the Sub-divisional Officer, Hospet.
Dated—Hospet, the 5th June 1909.
No.—96.

With reference to your endorsement No. 1870 M., dated 10th November 1908, herewith returned with enclosures, I beg to submit herewith the report called for regarding constructing a new tank across the Marur vanka in the village of Ayanahalli, Kudligi taluk.

1. *General state as to the position of the site.*—The proposed site of the tank is one where once a tank had existed some one hundred or more years ago and which is now in a completely ruined state with only traces of a bund once having existed. The drainage area of the stream at the site is 100 square miles capable of discharging about 11,000 cusecs.

2. *Available ayacut below the site.*—Just below the site at about 3 furlongs distance, the vanka flows into the Hagari river and the ayacut available for irrigation is, the lands lying between the confluent and the river, the lands on the right of the former being too high to be commanded. The total extent of these lands comes to not more than 100 acres.

3. *Storage required.*—To irrigate 100 acres of paddy crop, the storage may be taken as 33 millions of cubic feet assuming 3 acres for 1 million cubic feet. The average area of waterspread is roughly traced to 3 millions of square feet and with 11 feet of water in tank, *i.e.*, 15 feet from bed of river at site, will be enough to hold the required capacity. The average height of the existing bund over the deepest bed of tank (not the bed of the vanka) is 6 feet and consequently height of raising bund will be 5 feet plus 6 feet or 11 feet more.

4. *Disposal of drainage from catchment.*—The old tank has had a surplus ground escape at the left flank + 120 feet long and the surplus channel is in cutting varying from 8 to 12 feet in depth. To discharge this enormous quantity of drainage, there is necessity to have a large surplussage and the only site where a good weir can be constructed is at the right flank just at the river. The total length of weir comes by formula 3·3 lh $\frac{3}{2}$ to nearly 1,000 feet.

5. *Nature of soil.*—The predominant soil of the locality and especially at the site is one of silicious nature with an admixture of sand and saline soil. It is therefore a soil that cannot withstand the action of water nor is impervious. Hence there is a necessity for a strong foundation and an elaborate and hence costly design of weir at the place.

6. *Quarries for building materials.*—The building materials are not available at site and burnt stone, rough stone and lime have to be brought from 6, 4 and 10 miles, respectively. I beg therefore to submit that the cost per foot run of weir taken by Mr. Moses Pillai, *i.e.*, Rs. 30 seems to be much lower than what the case would warrant.

7. *Lands in the bed.*—There are cocoanut topes and gardens on the bed of the proposed tank and all the lands which are of best and costly padugai soil (alluvial) are in holding and have to be acquired on payment of compensation.

8. When the tank is restored, there will be about 3′ of water in the river at the point where it crosses the Harpanahalli road and there may arise a necessity to provide the road with a superpassage. This can be avoided if the road is diverted so that it may cross the vanka at a point say 4 furlongs above.

9. *Approximate cost of the project.*—I beg to report that in consideration of the circumstances of the case, the total cost of the project would amount to Rs. 60,000 as detailed below:—

Earthworth for raising and strengthening bund—

	RS.
Raising only 3,300 × $\frac{44 + 6}{2}$ × 11 } Strengthening 3,300 × 20 × 10 } 908 units at Rs. 6 ...	5,448
Drystone packing 3,300 × 22 × 1·25, 908 units at Rs. 10 ...	9,080
Gravel coating and backing 3,300 × 70 × 1·0, 2,310 units at Rs. 2	4,620
New sluice	500
Weir 1,000′ long at Rs. 30 per foot run	30,000
Compensation	5,000
Diversion of road and road dam	1,352
Contingencies	4,000
	60,000

10. *Return.*—Assuming that all the available ayacut, *i.e.*, 100 acres are brought under irrigation under the tank, the extra revenue derivable is Rs. 300 at Rs. 3 per acre which is the difference between the revenues of wet and dry lands in the locality. The return of Rs. 300 on an expenditure of Rs. 60,000, *i.e.*, 0·5 per cent. per annum is too poor to consider the project to be a paying concern.

11. I beg to conclude that the drainage from this large area of 100 square miles has, all these years, been allowed to waste and it is a matter for much consideration for Government to make use of it as early as possible by bunding up the valley somewhere higher up near Jaladakudligi where an advantageous tank can be formed to command a larger area and at the same time to benefit the Kottur large tank with a supply channel.

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(2)

Letter—from M.R.Ry. P. MOSES PILLAI, Overseer, Public Works Department, Harpanahalli and Kudligi Sections.
To—the Sub-Divisional Officer, Hospet.
Dated—the 2nd September 1908.
No.—1107.

With reference to your personal instructions to make a preliminary report about the restoration of Ayanahalli ruined tank, I beg to report as follows.

From the index map and the land coloured red and available for irrigation, it will at once strike that it would be an absurd proposal to restore it apart from the points argued below.

The position of this ruined tank is about 1 mile north-west of Ayanahalli village of Kudligi taluk and lies parallel to the road from Harpanahalli to Kottur between the 12th and 13th mile.

The tank seems to have been in a breached state 100 or more years, as may be judged from the old cocoanut topes in the foreshore. No sluice can be seen, but it has artificial byewash 110 feet long at the left flank. The foreshore is cultivated with dry crops and there are also five gardens with cocoanut and mango trees. At the right flank one of the tributaries of the Hagiri river runs through the tank causing a breach which measures now 1,000 feet, 4 feet deeper than the tank bed.

The catchment area is about 100 square miles as may be seen from the index map, and the discharge from it would be $350 \times 100^{\frac{3}{4}} = 350 \times 31{\cdot}62 = 10{,}967$ cubic feet a second. To discharge this surplus, there exists a byewash 110 feet which would discharge with a bed of 2 feet = 733 cubic feet a second; so a weir would be necessary to discharge the balance (*i.e.*), 10,967 — 733 = 10,234 cubic feet or a weir of 1,023 feet long.

There is a road running from Harpanahalli to Kottur about a mile above and the road will be submerged with 5 feet of water at least when the tank is restored, and so the vanka 200 feet wide will have to be bridged.

COST.

	RS.
(1) Constructing a weir at the right flank which is the only site suitable for it 12 feet high at Rs. 30 per foot run = ...	31,000
(2) Raising bund average 8 feet, $3{,}300 \times \frac{16 + 12 + 10}{2} \times 8$ say 50,000 at Rs. 5	250
(3) Revetment $3{,}300 \times 20 \times 1\frac{1}{2} = 99{,}000$ at 10–8–0 lead 7 miles	10,395
(4) Gravel coating 1 foot thick at top and rear slope $3{,}300 \times 22 \times 1 = 72{,}600$ or say 725 unit at Rs. 2	1,450
(5) One new sluice	750
(6) Compensation for land nearly 200 acres in foreshore including topes	12,000
Construction of a bridge 200 feet long at Rs. 40 a foot run — ...	8,000
Total ...	64,045

or say Rs. 67,000 including contingencies and supervision.

Remuneration.—The land available for cultivation below the tank and the juncture of the vanka with Hagari river is hardly 100 acres in extent and the difference of revenue being only about Rs. 3 per acre between dry and wet cultivations, the extra revenue derived will be Rs. 300 a year against an expenditure of Rs. 67,000 that is not even half per cent. per annum. Under these circumstances, I am of opinion that the restoration of this tank will be only a waste of money.

IX

Note by the Chief Engineer for Irrigation, R.O.C. No. 1471/10, dated 28th November 1911.

While reviewing the programme of famine-relief works in the Bellary district for 1910-1911, the Superintending Engineer, III Circle, was, in this office Memorandum R.O.C. No. 1471, dated 4th April 1910, requested to report whether he proposed to investigate the marginally-noted unsanctioned projects included therein or to give them up. The papers quoted above relate to items (1) and (3).

(1) Forming a tank near Kaggallur.
(2) Kanchamallanahalli tank.
(3) New tank near Ayanahalli.

2. In his letter No. 8176, dated 12th December 1910, the Superintending Engineer reported that he was not able to furnish the required information with the existing staff and stated that a special staff should be appointed to investigate them. In Memorandum R.O.C. No. 1471/10, dated 21st December 1910, he was informed that early steps should be taken to prepare the necessary estimates for them or to remove them from the programme if they were found not worth carrying out. In his letter No. 592 I., dated 25th January 1911, the Superintending Engineer reported that there was no reason for condemning item (1) and that he was returning the plans for completion to the Executive Engineer. As regards item (3) Ayanahalli scheme, Mr. Allen after consulting Mr. Langston agreed with him that the scheme should be condemned. In Memorandum R.O.C. No. 1471/10, dated 1st March 1911, the Superintending Engineer was asked to submit a preliminary report on item (1) and to communicate his reasons for condemning item (3).

3. With his letter No. 7644, dated 6th November 1911, the Superintending Engineer forwards copies of correspondence with the Collector and the Executive Engineer regarding the Kaggallur tank. In his Memorandum No. 591, dated 25th January 1911, with which he returned to the Executive Engineer the plans and estimate for the work, the Superintending Engineer states that at best the project will afford work for famine labour and that as the ryots in the adjoining villages will find work even in the worst years in the fields under the Kampur channel, its further investigation was unnecessary unless the Collector is of opinion that the plans and estimate should be completed. In his letter to the Executive Engineer D. Dis. No. 2934, dated 9th August 1911, the Collector of Bellary states that the tank may be abandoned as a famine work as the probable income therefrom will be small and uncertain. The Superintending Engineer requests further orders on the subject.

4. As regards item (3) Ayanahalli scheme, the Superintending Engineer with his letter last quoted above forwards the reports of the Overseers to the Sub-Divisional officer, Hospet, and also an index map of the scheme. It is reported that the project is situated in a locality where paddy cultivation is not properly understood or practised and where water will be used only for growing sugarcane. The project of excavating a supply channel to the Kottur tank which is of a promising nature and likely to prove productive would interfere with this project materially as it will divert a portion of the drainage of the Marur vanka into the Kottur tank. For these reasons Mr. Allen recommends that the scheme may be dropped altogether without further enquiry.

5. The Chief Engineer for Irrigation recommends that, in the circumstances reported by the Superintending Engineer, these two schemes may be abandoned.

H. E. CLERK,
Chief Engineer for Irrigation.

To the Secretary to Government, P.W.D. (General and Irrigation).

X

To the	Suptg. Engr., III Circle, dated 11th January	1912,	R.O.C. No.	1471/10.
From the	„ III „ „ 11th February	„	„	1222.
To the	„ III „ „ 15th „	„	R.O.C. „	1471/10.
From the	„ III „ „ 10th August	„	„	6173.

Order—No. 383 I., dated 19th September 1912.

The recommendation of the Chief Engineer for Irrigation to abandon the marginally-noted projects included in the famine-relief programme of the Bellary district is approved.

(1) Forming a tank near Kaggalur.
(2) New tank near Ayanahalli.

2. The attention of the Superintending Engineer, III Circle, is drawn to paragraph 2 of Official Memorandum R.O.C. No. 1471/10, dated 11th January 1912, and he is requested to expedite the submission of the report called for therein as to the possibilities of the scheme mentioned in paragraph 11 of letter No. 96, dated 5th June 1909, from the Overseer, Public Works Department, Hospet. pb-cf.

(True Extract.)

H. E. Clerk,
Ag. Secretary to Govt., P.W.D.
(General and Irrigation.)

To the Chief Engineer for Irrigation.
,, Superintending Engineer, III Circle.
,, Revenue Department.
,, Board of Revenue (Revenue Settlement).

Forwarded to the Chief Engineer for Irrigation.

(By Order.)

[signature] 21/12

Under Secretary to Govt. P.W.. (9)

EB 30/10